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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,695	05/21/2002	Yukoh Hiei	0760-0350 P	5501

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EXAMINER

HELMER, GEORGIA L

ART UNIT	PAPER NUMBER
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1638

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/089,695	Applicant(s) HIEI ET AL.	
	Examiner Georgia L. Helmer	Art Unit 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 30 June 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3-12, 14, 15, 17, 18, 20, 21, 23 and 24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-12, 14, 15, 17, 18, 20, 21, 23 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Status of the Claims.

1. The Office acknowledges receipt of Applicants' Response; dated 30 June 2005.
2. Applicant has cancelled claims 2, 13, 16, 19, 22 and 25 and amended claims 1, 3, 6-8, 11, 12, and 14. Claims 1, 3-12, 14, 15, 17, 18, 20, 21, 23 and 24 are pending, and are examined in the instant action.
3. All rejections not addressed below have been withdrawn.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Objections

4. Claim 11 is objected to for its omission of the phrase —is carried out under a centrifugal—, which should be inserted before "acceleration" in line 2. See claim 10. Any subsequent amendments should comply with 37 CFR § 1.121(c).

Claim Rejections - 35 USC § 102/103

5. Claims 1, 3-12, 14, 15, 17, 18, 20, 21, 23 and 24 are rejected under 35 U.S.C. 102 (b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over by Hansen (WO 98/54961, published 10 December 1998).

The instant claims are drawn to methods for promoting efficiency of gene transfer to plant cells by *Agrobacterium* comprising the steps of heating and centrifuging the

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plant cells or tissue, and contacting said plant cells or tissue with the Agrobacterium so that the gene is transferred into the plant, wherein contact between the plant cells or tissue and the Agrobacterium occurs after or while heating and/or centrifuging the plant cells or tissues.

Hansen teaches a method of gene transfer to maize by Agrobacterium comprising heating and centrifuging the maize cells, wherein heating is at 45° for a time period of 4 minutes and wherein gene transfer occurs after heat shock and centrifugation (p. 18, 4th & 5th lines from the bottom, p. 19 lines 1 & 2) (claims 1, 3-7).

Quoting Hansen, p. 19, "Heat shock treatment of tissues: Before cocultivation, maize tissues are placed in an Eppendorf tube in N6 liquid medium and incubated for 4 minutes at 45 °C in a water bath. The medium is then replaced by an Agrobacterium suspension prepared as described above." The "Eppendorf tube" referred to is a Eppendorf centrifuge tube. After the heat shock, the tube containing the maize cells was centrifuged in an Eppendorf centrifuge, the supernatant N6 liquid medium discarded, and it was replaced by the Agrobacterium suspension liquid. Hansen preformed the standard molecular biology laboratory procedure for changing the liquid solution of a cell suspension by centrifuging the cell solution, discarding the supernatant (upper layer) produced and replacing it with the desired solution. In this case, the desired solution was the Agrobacterium suspension.

Maize is a Gramineaceous monocot Angiosperm plant (claims 14, 15, 17, 18, 20, 21, 23 and 24)

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Claims 8-11 require limitations of centrifugation which has the property of being various rates of centrifugal acceleration 100G to 250,000G. Hansen is silent on centrifugation conditions, other than that an Eppendorf centrifuge is used. The Examiner is unable to determine whether the prior art disclosure possesses the unrecited characteristics or property. With these conditions, where the method seems to be identical except that the prior art is silent to the characteristic or property claimed, then the burden shifts to Applicant to provide evidence that the prior art would neither anticipate nor render obvious the claimed invention. See *In re Best* 195 USPQ 430, 433 (CCPA 1977).

If Hansen does not in ^fact _^ teach the particular centrifuge speeds recited in claims 8-11, then it would have been obvious to one of ordinary skill in the art to evaluate different centrifuge speeds, in order to optimize process parameters.

Applicant's arguments filed 30 June 2005 have been fully considered but they are not persuasive. Hansen (WO 98/54961) does teach heating and centrifugation of the plant cells prior to gene transfer, on p. 19, as explained above.

Accordingly Hansen anticipates the claimed invention.

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REMARKS

6. No claims are allowed given the success and suggestions of Hansen.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Georgia L. Helmer whose telephone number is 571-272-0796. The examiner can normally be reached on M-Th, 10:30am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones can be reached on 571-272-0745. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Georgia Helmer PhD
Patent Examiner
Art Unit 1638, Transgenic Plants
16 September 2005.



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